UMB-Config-Tool

Operating Instructions UMB Configuration Software



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1.0	24.01.2007	EES	Taken from Short Instructions V02 and completed	
1.1	12.02.2007	EES	System requirements supplemented	
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Version history:



			Option to chose name/path for sensor configuration files
1.9	08.03.2012	BR	Extended NIRS31-UMB service functions
			Warning when trying to downgrade a firmware of a module
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Preface, designated use

The UMB Config Tool has been created for configuring, commissioning, maintaining, calibrating and checking Lufft UMB sensors, modules and systems.

It is not designed for reading out and storing data permanently. For the permanent data evaluation Lufft offers the software SmartView3.

When in the UMB Config Tool values or ranges of values are shown, and these are different from those in the device description of the sensor, always the details in the operating manual for this sensor version counts (see also "channel list update a sensor").

The UMB Config Tool is single seat software. It is not intended that multiple users use this software from the same directory at the same time.

The UMB Config Tool is able to create logfiles. When these files are opened by other programs during the operation of the UMB Config Tool, there might occur writing errors (i/o Errors) when the UMB Config Tool tries to update them, and the file will not update correctly. Details to special functions for sensors can be found in the operating instructions of the sensor.

Installation UMB Config Tool

Start 'Setup_UMB_Config_xxxxxx.EXE' and follow the instructions of the installation programme.

The software is installed under 'C:\Lufft\UMB-Config' as standard. In MS-Windows Vista and MS-Windows 7 you must not install the software in the directories C:\Program Files or C:\Program Files (x86) because these directories are specially protected system directories, and the protection does not work well with the normal program function of this tool. Start the application with 'Start' \rightarrow 'Programme' \rightarrow 'Lufft UMB Config' \rightarrow 'Config Tool'.

Installation paths:

Path	Content
\Lufft\UMB-Config\	Application and INI files
\Lufft\UMB-Config\Firmware	Device firmware (mot files)
\Lufft\UMB-Config\Hexload	Bootloader programme
\Lufft\UMB-Config\UMB_FWUpdate	Firmware update program for Marwis-UMB
\Lufft\UMB-Config\Konfig	Stored device configurations

Copy the current device firmware into the firmware directory prior to installing firmware updates.

The UMB Config Tool can be uninstalled with '...\Lufft\UMB-Config\UNWISE.EXE'.

System requirements

Windows 2000 / XP / Vista / 7 (32 or 64 Bit) 10 MB free hard disk capacity A free serial interface (COM) for configuration, diagnosis and firmware update Alternative: TCP/IP connection to the measurement setup for configuration and diagnosis



Communication settings / communication

The UMB Configtool works in principle with connections to the measurement setup with connection settings 19200 baud, 8 data bits, 1 stop bit, no parity. A different baud rate is only possible by editing the file ULSPS.INI.

From UMB Configtool version 1.5 in addition to the direct serial connection to the measurement setup a connection using TCP / IP is supported. The TCP / IP communication is enabled in the UMB Configtool by setting 'Edit' ->' Use TCP / IP ' or in the "Configure communication setttings" dialogue. The measurement setup is connected to an RS-232/RS-485 to LAN / WLAN adapter (or similar device). The UMB Configtool supports the connection to a host name or IPv4 address. Because TCP / IP connections as opposed to direct RS232 connections are affected by latency, an additional timeout has to be specified to wait for the responses of the devices in the UMB-setup. The times given in the configuration dialog are ms. For direct LAN connections to IP addresses, values of 100 (ms) are sufficient. For example, targets with name resolution and GPRS connections require values up to 10000 (ms).

Note: Only the communication connection type 'raw' is currently supported (not Telnet emulation).

Note: The set times are also considered for RS232 connections. Note: Firmware updates are only supported over direct (vituelle) com ports, not over direct TCP/IP connections.

Configure communication settings	
Connection type Use RS232 (COM) Use TCP/IP	
Hostadress or hostname 192.168.129.13 TCP-Port 8000	RS232 Select Port COM1
Additional Timeout for slow conne 1500 T	ections to host



For establishing a connection to UMB devices over the LCOM service program and LCOM, the LCOM service program has to be started first and a connection to the LCOM has to be made. Then the UMB Config Tool can be used with the following connection settings

- Connection type: Use TCP/IP
- Hostname: localhost
- TCP-Port: 8000 (when not changed in the LCOM service program)

to access the UMB devices connected to the LCOM.

Note: In the title of the UMB Config Tool the connection type is shown close to the program name. If the connection is open, the connection is shown.

Connection type (port closed, TCP/IP connection)

UMB Config Tool - TCP/IP

```
File Edit Options Help
```

Connection type (port open, TCP/IP connection)

UMB Config Tool - 192.168.129.13:8000

File Edit Options Help

Creating a sensor list

Menu: Edit → Sensors:

Station Sensor	'S				
Sensor Selec	ction				
Type of Sensor VS20-UMB	ID • 1]		
					Save/Exit
Add	Delete	Modify	Configure		Cancel/Exit
Update (Channellist	Firmwareup	odate Sensor		
Selected Ser	nsors				
ID	Туре	Address	Channels	Active Channels	
1	VS20-UMB	0x3001=12289	40	0	
Click Sensor to edit	Vremove Sensor	Save	Double Click Senso	r to edit active cha	nnels

Choose ,Type of Sensor'; enter an ID and add it with ,Add' to the list. With ,Delete' sensors can be deleted, with ,Modify' a sensor in the list can be modified. The sensor shown in ,Sensor Selection' will be deleted or modified.

,Configure' starts the configuration of the sensors in the list. ,Firmwareupdate Sensor' starts the module for updating the firmware of the selected sensor. ,Update Channellist' reads the channel list from the connected UMB-module / sensor and inserts new channels into the existing channel list for this device.

Running ,Autoscan' queries the network for existing UMB devices. ,Verify' checks, if the devices in the list are responding to communication from the master.

With ,Save to Disk' the sensor list (including selected channels) can be stored for later reuse (,Load to Disk').



Configuring sensors

Select a sensor from the list by clicking it, then click ,Configure'. You will get the following dialogue:

Sensor Configuration			<u>- 🗆 ×</u>
Main			
		Select sensor to configure	
	Load profile from sensor	0x3001=12289	
-			
	Load profile from disk		
		-	
_	Store profile on sensor		
		1	
_	Store profile on disk		
	Load adi, data from disk	1	
_		1	
	Close	1	
-		1	

The check box "select sensor to configure" allows to switch to another sensor of the measurement setup.

Load the configuration of the sensor with ,Load profile from sensor'. Adjust the values in the mask to suit your needs.

Sensor Configuration		_ 🗆 ×
Main Info VS20-UMB		
General properties	Communication properties	
ID 1	Linespeed 19200	
Description visibility-sensor VS20-UMB	Protocol binary	
	Timeout protocol change 5	min]
Output properties	Measurement Setup	
Output mode 420mA	Average for visibility [min] 5	
Failure current [mA]	Offset for visibility [m]	
Scaling 0 2000 m	Border contrast	
	Average for temperature [min] 5	
	Offset for temperature (°C)	
Calibration values		
DAC offset 63.85248 Calibration value	6201.97754 Calibration status 3	
DAC gain 163.11475 Calibration offset	0.00033	



After the values have been set, store them on the device with ,Store profile on sensor'.

Sensor Configuration			_ 🗆 🗵
	1		
main Into VS20-UMB			
		Select sensor to configure	
	Load profile from sensor	0x3001=12289	
	Load profile from disk		
	Store profile on sensor		
	Store profile on disk		
-			
	Load adj. data from disk		
-			
	Close		

With ,Store profile on disk' a sensor configuration might be stored on a hard drive. Stored configurations of sensors might be loaded with ,Load profile from disk'.

Note: In case of a service call, a saved sensor configuration helps a lot more than one or more screenshots of the sensor configuration.



Assigning device ID's

Each device in a UMB network requires a unique address.

Addressing takes place via a 16 bit address. This is divided into a sensor class ID and a device ID.

To avoid address duplication, the device ID's are assigned in ascending order per sensor class (i.e. sensor type):

Station S	ensors				
Sensor S	Selection				
Type of Sens ANACON-U	or ID MB T				Save/Exit
Add	Delete	Modify	Configure		Cancel/Exit
Uţ	odate Channellist	Firmwareu	pdate Sensor		
Selectec	l Sensors	1		1	
ID	Туре	Address	Channels	Active Channels	
1	IRS21CON-UMB	0x1001=4097	26	0	
2	IRS21CON-UMB	0x1002=4098	26	0	
3	IRS21CON-UMB	0x1003=4099	26	0	
1	R2S-UMB	0x2001=8193	15	0	
2	R2S-UMB	0x2002=8194	15	0	
1	VS20-UMB	0x3001=12289	40	0	
2	VS20-UMB	0x3002=12290	40	0	
1	ANACON-UMB	0x6001=24577	135	0	
2	ANACON-UMB	0x6002=24578	135	0	
3	ANACON-UMB	0x6003=24579	135	0	
4	ANACON-UMB	0x6004=24580	135	0	
Click Sensor	to edit/remove Sensor		Double Click Senso	r to edit active char	nnels
Auto	scan Verify	y Sav	e to Disk Lo	oad from Disk	

ATTENTION: When configuring new equipment please note that **new devices always have the ID 1!** If there are several sensors of the same type in a network it makes sense to configure the sensors individually with their corresponding ID's **before** commissioning the network.

Interface settings

The interface settings made by the UMB Config Tool relate to the specified sensor. Attention: Only change the interface settings if you are sure you have to, and if you are aware of all the consequences of this change. This change may not be reversed in a simple manner.



Configuring ANACON-UMB

As the ANACON-UMB is a universal measurement transmitter which can be operated with various analogue sensors, this module must always be configured to the connected sensor **before** commissioning.

To do this, connect the module to the power supply (with no additional participants on the bus) and connect to the PC via an RS232 cable (1:1). Load the current configuration via 'Load profile from Sensor' as in the section 'Configure Sensor':

Select the connected sensor type in 'Measurement Setup' under 'Channel 1' and 'Channel 2':

Main Info Anacon-UMB General properties Communication properties ID 1 1 Description measure-module-ANACON-U Protocol Description measure-module-ANACON-U Protocol Meassurement Setup Imeout protocol change 10 General Parameters Channel 1 Channel 2 Sensor type Meassurement category Unit Imperature "C Max value Offset in Unit from Channel 70.0 0.000 Imediate Overrange [%] Sensor powerup time [ms] 5 Verrange [%] Sensor powerup time [ms] 5 Number of samples for average 12 Average over 60 s	🕮 Sensor Configuration	-	<u> </u>
Communication properties ID 1 Inspeed RS232 19200 Description measure-module-ANACON-U Protocol binary Image: Communication properties Description measure-module-ANACON-U Protocol binary Image: Communication properties Meassurement Setup Image: Communication properties Image: Communication properties Image: Communication properties Meassurement Setup General Parameters Channel 1 Channel 2 Sensor type Meassurement category Unit Imperature 'C' Max value P11000 Max value Offset in Unit from Channel P1000 Imperature 'C' Overrange [%] Sensor powerup time [ms] Combi wind 4.20mA extern combi wind 4.20mA intern are rege Impersure [8356.01] Sensor powerup time [ms] Sensor powerup time [ms] Combi wind 4.20mA intern are resource Impersure [2] Sensor powerup time [ms] Sensor powerup time [ms] Impersure [357 Impersure [357 Impersure [357 Impersure [357 Sensor powerup time [ms]	Main Info Anacon-UMB		
ID 1 Image: Linespeed RS232 19200 Description measure-module-ANACON-U Protocol binary Protocol binary Image: Linespeed RS232 19200 Meassurement Setup Timeout protocol change 10 Image: Linespeed RS232 Meassurement Setup Image: Linespeed RS232 10 Image: Linespeed RS232 Meassurement Setup Image: Linespeed RS232 10 Image: Linespeed RS232 General Parameters Channel 1 Channel 2 Image: Linespeed RS232 10 Sensor type Meassurement category Unit Image: Linespeed RS232 10 Image: Linespeed RS232 Image: Linespeed RS232 Protocol Unit Image: Linespeed RS232 10 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image: Linespeed RS232 Image:	General properties	Communication properties	
Description measure-module-ANACON-U Protocol binary Timeout protocol change 10 Image: Channel 1 Channel 2 Meassurement Setup Meassurement category Unit Image: Channel 1 Channel 2 Image: Channel 1 Channel 2 Image: Channel 1 Channel 2 Image: Channel 1 Channel 2 Image: Channel 1 Channel 2 Image: Channel 1 Channel 2 Image: Channel 1 Channel 2 Image: Channel 1 Channel 2 Image: Channel 1 Channel 2 Image: Channel 1 Channel 2 Image: Channel 1 Channel 2 Image: Channel 1 Channel 2 Image: Channel 1 Channel 2 Image: Channel 1 Channel 2 Image: Channel 1 Channel 2 Image: Channel 1 Channel 1 Image: Channel 1 Channel 2 Image: Channel 1 Image: Channel 1 Image: Channel 1 Channel 2 Image: Channel 1 Image: Channel 1 Image: Channel 1 Channel 2 Image: Channel 1 Image: Channel 1 Image: Channel 1 Channel 2 Image: Channel 1 Image: Channel 1 Image: Channel 1<	ID 1	Linespeed RS232 19200	
Timeout protocol change 10 Meassurement Setup General Parameters Channel 1 Channel 2 Sensor type Meassurement category Unit Imperature Gigital input intern PT1000 TFF (BISOTFF) Combi wind (3658.01) combi wind 4.20mA extern combi wind 4.20mA interner Max value Overrange [%] Sensor powerup time [ms] Overrange [%] Sensor powerup time [ms] Number of samples for average 12 Average over 60 s	Description measure-module-ANACON-U	Protocol binary	
Meassurement Setup General Parameters Channel 1 Sensor type Meassurement category Unit IFF 01600 FFF Imperature °C digital input intern Max value Offset in Unit from Channel 70.0 0.000 Imperature Imperature Combi wind (3658.01) Overrange (%) Sensor powerup time [ms] Combi wind 4.20mA extern Imperature Imperature Imperature Imperature Imperature Imperature Verrange [%] Sensor powerup time [ms] Imperature Imperature Imperature Imperature Imperature		Timeout protocol change 10	
Combit wind 4. 20mA internet Image: Combit wind 4. 20mA internet air pressure (8355.03) Image: Combit wind 1.5 Windber of samples for average Image: Combit wind 1.5 5 Image: Combit wind 1.5 12 Image: Combit wind 1.5	Meassurement Setup General Parameters Channel 1 Sensor type Meassurement category IFF (8160.TFF) Image: Channel 1 digital input intem Max value PT1000 TFF (8160.TFF) Combit wind (8368.01) Combit wind (8368.01) Combit wind (4.20mA exten) Overrange (%)	Unit C Offset in Unit from Channel 0.000 Sensor powerup time [ms] 5 5	
Channel description channel 1	Control of a c	ge Average over 60 s	

If necessary, set the ID, measurement interval and number of measurements for the min-, max- and average values:

Meassurement intervall [s]	Number of samples for	average
3	12	Average over 60 s

Then save the amended configuration in the module with 'Store profile on sensor' under 'Main'.

ATTENTION!! In the case of the temperature/humidity sensor (TFF 8160.TFF), the values for C12 and C76, which are marked on the sensor head, must be recorded under 'General Parameters'!!!

General Parameters	Channel 1 Channel 2			
Altitude [m]	100	ŧ		
TFF C12	1625	TFF C76	1956 🚖	
	1.000		1	



IRS31Pro-UMB and the mode IRS31-UMB compatibility

To configure an IRS31Pro-UMB for IRS31-UMB compatibility, you have to add an IRS31Pro-UMB to your measurement setup and configure it.

Attention: Is the sensor programmed for IRS31-UMB compatibility, you have to add an IRS31-UMB to you measurement setup with the corresponding id (for example to query measurement data or for sensor configuration). Is detected while reading the configuration of a IRS31-UMB that the configuration is from an IRS31Pro-UMB in compatibility mode, the configuration sheet of the IRS31Pro-UMB is shown, and the compatibility mode cab be switched off.

Configuration of sensors operating in different protocols (e.g. MODBUS, SDI12)

If sensors are permanently set to protocols other than UMB (Binary or ASCII) they must be changed first to the UMB protocol if you want to change the configuration with the UMB Configtool.

The procedure for doing this is as follows:

- 1. Separate measurement setup from the supply voltage
- In the UMB Configtool select 'Options' -> 'Switch all sensors temporarily to UMB protocol'
- 3. Connect the Measurement setup again to the supply voltage.
- 4. After about 5 seconds (or longer) click ,Exit' in the UMB Configtool

The sensors can now be configured for the time in minutes set under, timeout for protocol change 'in the sensor settings by UMB Configtool. UMB telegrams e.g. Measurement acquisition, configuration read / write reset the timeout to the time set. After a reset, the sensor is running again in the configured protoco.

Note: After a 'Store profile on Sensor' the sensor is reset automatically by the UMB-Configtool and then runs again in the configured protocol.

Sensor	Firmware version or higher
ANACON-UMB	Not available
ARS31-UMB	Not available
ARS31pro-UMB	Not available
DACON8-UMB	Not specified
IRS31-UMB	Not available
IRS31Pro-UMB	Version 1.0
Marwis-UMB	Version 1.0
NIRS31-UMB	Version 1.2
R2S-UMB	Not available
VENTUS-UMB	Version 1.6
VS20-UMB	Not available
V200A-UMB	Version 1.6
WSx-UMB	Version 2.2

This functionality is available on the following products::

Query measurement values

The channel list of a sensor is opened by double clicking a sensor in the sensor list:



回 Selec	t active Channels				
ChNr.	Measurement	Unit	Range	active	Click on Channel to toggle active
100	Act. temperature CH1	°C	-200.00 450.00	active	Add channel from #
120	Min. temperature CH1	°C	-200.00 450.00	inactive	
140	Max. temperature CH1	°C	-200.00 450.00	inactive	Add channel to #
160	Avg. temperature CH1	°C	-200.00 450.00	inactive	Delta for channel #
105	Act. temperature CH1	۴F	-328.00 842.00	active	1
125	Min. temperature CH1	۴F	-328.00 842.00	inactive	Multiple channel action
145	Max. temperature CH1	۴F	-328.00 842.00	inactive	 Deselect channels
165	Avg. temperature CH1	۴F	-328.00 842.00	inactive	Deselect all channels
101	Act. temperature CH2	°C	-200.00 450.00	inactive	Go
121	Min. temperature CH2	°C	-200.00 450.00	inactive	
141	Max. temperature CH2	°C	-200.00 450.00	inactive	т ОК
					•

Here you are able to select the channels for query, either through clicking the corresponding channel in the list, or by using the "Multiple channel action" function with the channel numbers.

Example:

If channels 100, 120, 140 and 160 of the list above should be selected for query with the UMB Config Tool, this could be done with the following settings: Add channel from #: 100 Add channel to #: 160 Delta for channel #: 20 Multiple channel action: Select channels and then click on "Go".

Note: If a channel mentioned in the operating instructions of a sensor is not shown in the sensor list, the channel list of the UMB-Config-Tool for this sensor needs to be updated. It is advised, that you update the Firmware of the sensor before updating the channel list (see chapter Firmware Updates).

ANACON-UMB ID1 temperature [°C] Act	ANACON-UMB ID1 temperature [°F] Act	ANACON-UMB ID1 relative humidity [%] Act	ANACON-UMB ID1 absolut humidity [g/m²] Act	
21.27	70.29	36.40	7.70	
21.27	70.29	36.45	7.71	
1.27	70.29	36.49	7.72	
1.27	70.29	36.56	7.73	
1.28	70.31	36.56	7.74	
1.26	70.27	36.59	7.73	
1.28	70.30	36.55	7.73	
1.27	70.28	36.59	7.74	
1.27	70.29	36.45	7.71	
1.27	70.29	36.50	7.72	

The measurement is started in menu ,File' \rightarrow ,Start measurement'.



To change the sampling rate of the software click ,Edit' \rightarrow ,Sampling Rate'. A sample rate of 1s does not correspond to the UMB-protocol. In the case of missing answers of the sensor it can lead to erroneous presentation of the received values.

Attention: The selected channels only affect the data query in the UMB-Config-Tool. They do not influence the query of channels in any other software.

Updating the channel list for a sensor

Add the desired sensor to the measurement setup and make it to the selected sensor (by clicking the list entry).

Station Senso	rs				_ [] ×
Sensor Sele	ction				
Type of Sensor DACON8-UMB	■ ID		_		
	_ ,				Save/Exit
Add	Delete	Modify	Configure		Cancel/Exit
Update	Channellist	Firmwareup	idate Sensor		
Selected Se	nsors				
ID	Туре	Address	Channels	Active Chann	nels
1	DACON8-UMB	0xF001=61441	0	0	
Click Sensor to ed	t/remove Sensor		Double Click Senso	r to edit active	channels
Autoscan	Verif	y Save	e to Disk Lo	ad from Disk	

Then choose "Update Channellist". The UMB-Config-Tool now reads the channels from the desired sensor and sorts the new ones into the channellist. During this operation no channels are deleted, but descriptions and other information of the old channels are replaced by the newly read ones. Also the Type of Sensor might be changed during this operation. This process also works for up to now unused sensortypes. However, such sensors cannot (jet) be configured with the UMB-Config-Tool but querying measurement values works.



Firmware update

Before implementing any update, please check with Lufft concerning the current firmware status of the UMB products. You must not program an older firmware into a module, than the one which is currently installed without consulting Lufft over this issue.

Check current firmware status

The current status of the firmware should be checked before updating the firmware. To do so, read the configuration under 'SensorConfig'. The current version of the software is shown under 'Rev. firmware' on the 'Info' page.

Sensor Cor	Sensor Configuration							
Main Info	R2S-UMB							
	Name	R2S-UMB						
	Serialnumber	001.0706.0007.000						
	Number	001						
	Tested	0706						
	Project number	0007						
	Rev. bom	9						
	Rev. schematic	8						
	Rev. hardware	8						
	Rev. firmware	40						
	Rev. config	10						
	Rev. device	000						
	Class-id	2						

40 corresponds to Version V4.0



Program a sensor update

Before updating, save the current device firmware (mot file) in the installation directory under 'Firmware' (e.g. C:\Programme\Lufft\UMB-Config\Firmware).

ATTENTION: When updating ANACON-UMB or IRS21CON-UMB, the RS232 connection must be plugged **directly** into the module to be updated. Anacon-UMB and IRS21CON-UMB with production date from February 2009 on can also be updated over the bus. ANACON-UMB without frontside RS232 can only be updated over the bus. This requires at least one ISOCON-UMB in the measurement setup.

ATTENTION: When updating a Marwis-UMB the program "UMB_FWUpdate.exe" is used instead of the program "Hexload.exe".Both programs are installed when you install the UMB Config Tool in subdirectories of the installation directory of the UMB Config tools.

ISOCON-UMB have to be updated manually. The corresponding instructions can be found the section "Updating manually with HexLoad"

Open the sensor list under 'Edit' \rightarrow 'Sensors'; if necessary, regenerate the list with 'Autoscan' or load a stored list with 'Load from Disk'. With 'Verify', check whether the sensors available in the sensor list are also reachable on the network.

Station Sensor	rs				
Sensor Selec	ction				
Type of Sensor VS20-UMB	ID • 1				
					Save/Exit
Add	Delete	Modify	Configure		Cancel/Exit
Update I	Channellist	Firmwareu	pdate Sensor		
Selected Ser	nsors				
ID	Туре	Address	Channels	Active Channels	
1	VS20-UMB	0x3001=12289	40	0	
1	IRS21CON-UMB	0x1001=4097	26	0	
1	ANACON-UMB	0x6001=24577	135	0	
2	ANACON-UMB	0x6002=24578	135	0	
1	R2S-UMB	0x2001=8193	15	0	
Click Sensor to edi	t/remove Sensor		Double Click Senso	r to edit active cha	nnels
Autoscan	Verify	, Sav	e to Disk	oad from Disk	

Select the appropriate sensor from the sensor list; the selected sensor is displayed in the 'Selected Sensors' section (VS20-UMB in the example).

The update process is started with 'Firmwareupdate Sensor'. The following window opens when this function of the Config-Tool is used for the first time:





Under 'Hexload', select the 'HexLoad.exe' file.

or

Select path to	UMB firmware up	date program (UMB_FWUpdate)	×
Suchen in:	UMB_FWUpd	ate 🗸	G 🤌 📂 🛄 -	
æ	Name	*	Änderungsdatum	Тур
	L2P-UMB_Fra	ameGenerator.exe	23.09.2014 08:47	Anwendung
Zuletzt besucht	📟 UMB_FWUpd	late.exe	24.10.2014 11:06	Anwendung
Desktop				
Bibliotheken				
Computer				
	•			•
Netzwerk	Datei <u>n</u> ame:	UMB_FWUpdate.exe		▼ Öffnen
	Dateityp:	UMB firmware update program		Abbrechen

choose UMB_FWUpdate.exe in the folder UMB_FWUpdate.

After this (and on all future updates) a window opens in which you select the relevant mot file for the update:



Firmware to upda	te current active s	sensor			? ×
<u>S</u> uchen in:	🗁 Firmware		•	+ 🗈 💣 🎟	
Zuletzt verwendete D Desktop Eigene Dateien Arbeitsplatz	<pre>>**0007_RR5_Relea >* anacon_release_v >* isocon_release_v >* vs20_release_v1</pre>	ise_V42.mot V11.mot 112.mot 6.mot			
Netzwerkumgeb ung	Datei <u>n</u> ame:	vs20_release_V16.mot		•	<u>Ŭ</u> ffnen
	Dateityp:	Firmware file		•	Abbrechen



The device is then programmed:

Rile Edit View	3.04 L Target	Opt	ions	Wine	10M	Heln											<u>_ </u>
Project Hexfile: COM Port: Baudrate:	VS2 COI 192	20_RI 11 100	ELE/	ASE	_V16	6.MC	T			Ra CF Ap CP BT	Targ nge C: plica U: L Ve	et : ation ersio	: n	E80 BTI M1 BTI	000 - L_VS 6C/2 L V3	- FDFEF S20_V3 Jun 6 2006 8 64pin .00	_□× 16:04:
HEX Current da Address: 0xE8	nta - [D:\ 000	PROG	RAM	IME\I x4	LUFF	r∖uM	1 B-C (DNFI	G\FIR	RMW.	ARE\	V5 20	_REI	EAS	E_V1	6.MOT]	_ 🗆 🗙
Address E8000 E8010 E8020 E8030 E8040 E8050 E8060 E8070 E8080 E8080 E8080 E8080 E8080 E8080 E8080 E8080 E8060 E80F0 E8100 E8120	Ø 1 FC EF 7C 04 84 70 1C F3 9F 02 60 6E 3C F6 94 01 E0 9B F0 83 7C FC 9D 00 AE 62 9C FF 65 00 AE 62 BC 82	2 70 28 48 40 48 20 68 50 24 88 01 94 88 50 24 88 01 94 48 85 24 68 50 24 40 50 24 40 50 24 40 50 24 88 50 24 88 50 24 88 50 24 88 50 88 50 84 50 88 88 88 88 88 50 88 88 88 88 88 85 84 85 84 88 88 88 88 88 85 85 84 88 88 88 88 88 88 88 88 88 88 88 88	3 95 F1 03 46 5F F7 01 08 F7 00 6F 00 6F 10 00 00 00	4 18 Sta 9% CØ D4 71 CØ F4 4A	5 05 ram tus 0E FE 00 2F 01 00	6 60 ning 95 40 60 60 A0 20	7 F0 targ 00 37 00 00 17 03	8 00 et 00 7E E0 2C 52 64	9 96 Ca FE 00 1D 01 00 4B	A C9 	B 04 FD FF 00 33 02 00	C C4 8C 26 64 5B A6 84	D F0 00 76 00 00 ED 03	E 70 70 70 77 28 90 4D B6	F C9 > FE 00 7C 01 00 CA	ASCII 	• • • • • • • • • • • • • • • • • • •
FR130 FR130 CRC of loaded fi Clear target start Clear target succ Programming tar S Ready	49 00 le: D9E4 ed ceed get started	FR	03	ØØ	76	37	ØØ	4.	Ø4	78	55	30	ØØ	RØ	Ø4	R 2? T. vii(

For Marwis-UMB:

w UMB_FWUpdate	x
V011-SVN1624\MARWIS-UMB_RELEASE_V11\MARWIS_RELEASE_V11_SVN1627.BIN Force-Flags set Rehoot-Flags set	*
Parsing passed Starting Firmware Update Opening COMPort (COM1)	
Opening BinFile (N:\PROJEKTE\1007 MARWIS-UMB\SOFTWARE\FIRMWARE\FW-V011-SVN1627 BL-V011-SVN1624\MARWIS-UMB_RELEASE_V11\MARWIS_RELEASE_V11_SVN1627.BIN) BinFile metadata: ProjectNumber:1007; SWVersion:11; Size:121984Bytes	Ε
Transfering data	~

After successful programming the Config-Tool reports as follows:



Informationen							
(į)	Firmware update succeeded						
	ОК						

The device then operates with the new firmware.

Possible sources of error

- If a firmware is selected which does not correspond to the sensor, the error message 'Invalid Firmware-Filename for this module' is displayed.
- When updating older ANACON-UMB or older IRS21CON-UMB, the RS232 connection must be plugged **directly** into the module to be updated.
- An ISOCON-UMB cannot be updated using this procedure (see page 25, Manual update with HexLoad).
- There is a plausibility check with the version number of the installed firmware, and the version number of the firmware file. A replacement of a newer firmware on a sensor with an older version is only allowed by a direct order from the manufacturer of the module. If you don't have the order, and the module is damaged by the action, the warranty is void.
- With Marwis-UMB manufactured before or in 11/2014 there is the possibility of an incompatible firmware update protocol used by this program. Please contact then the manufacturer hotline with the serial number of the sensor ready.

Resetting sensors to factory defaults

By choosing "Options" – "UMB Reset to factory default" in the main menu, UMB sensors and modules can be reset to factory defaults.



Attention: This function sets the Sensor-ID to the factory default '1' as well! When '0' is used for Group-ID and Sensor-ID, all connected sensors are reset to factory defaults!

Since sensors do not answer on broadcast messages, this function does not deliver feedback when executed.



Calibration of a VS20-UMB visibility sensor

Start by creating a sensor list, containing the VS20-UMB to adjust. Example:

Type of Ser	isor ID				
		1			Save/Exit
Ad	d Delete	Modify	Configure]]	Cancel/Exit
L	Jpdate Channellist	Firmwareu	pdate Sensor	1	
					
Selecte	d Sensors				
Selecte	d Sensors Type	Address	Channels	Active Chann	els
Selecte	d Sensors Type R2S-UMB	Address 0x2001=8193	Channels 15	Active Chann	els
Selecte	d Sensors Type R2S-UMB ANACON-UMB	Address 0x2001=8193 0x6001=24577	Channels 15 135	Active Chann 0 0	els
Selecte	d Sensors Type R2S-UMB ANACON-UMB VS20-UMB	Address 0x2001=8193 0x6001=24577 0x3001=12289	Channels 15 135 40	Active Chann 0 0 0	els

Then chose ,Save/Exit', ,Options' \rightarrow ,VS20-UMB Callibration'.

Run the calibration according to the description in the text field and like described in the manual from the calibration kit. See picture below.

🕮 Config-Softwar	e-UMB - COM1 - 19200			_ _ _ _ _ _ _ _ _ _ _
<u>Eile Edit Options</u>	Help			
Calibration Steps	Dx3001=12289 Calibration process VS20-UMB Step 1 Required items: 1x Calibration procedure will take about 10 minutes. When the calibration procedure will take about 10 minutes. When the calibration process is interrupted, the VS20 will not measure until reset or power off. Press "Start" when you have all the equipment ready and you want to proceed Press "Stop" to cancel	Start Stop		
			Scattering coefficient	Enter scattering coefficient here

Resetting the rain quantities of WSx-UMB

With the menu point 'Extras -> reset WSx-UMB rain sums' the absolute values of the rain quantities in all connected WSx-UMB are set back to 0. It is not necessary to establish a measurement setup with the WSx-UMB. It is however recommended to check if the command has been carried out successfully by reading out the respective values on the corresponding WSx-UMB.

Resetting the service level of NIRS31-UMB

After carrying out maintenance and replacing the reflector unit, the sensor must be informed about this procedure using the UMB-Config-Tool.

In the menu under 'Options', select the entry 'NIRS31-UMB' – 'NIRS31-UMB Service':

UMB Config Tool								
File Edit	t Options Help							
		Switch all sensors temporarily to UMB Protocol RS232 special functions VS20-UMB Callibration						
	NIRS21-LIMB		ъ ľ	NIRS31-LIMB Service				
		Close Communication Port ARS31(Pro)-UMB Reset Factory Default		NIRS31-UMB check adaption NIRS31-UMB generate statusfile				

Confirm the performance of maintenance with 'OK'.

NIRS31-UMB Service	×
The following works were carried out according to the manual:	
✓ reflector unit has been replaced	
I sensor was cleaned	
0K Cancel	

Important note: Only use this function if maintenance was actually carried out and the reflector unit was actually replaced.

Miscellaneous

,Edit' à ,Password entry' allows the user to change in a different user group with advanced possibilities.

Parameters only adjustable by modifying the file ULSPS.INI: [Settings] LogToFile=1 Writes the measurement values into a log file, file name see ,LogFileName'. The column headers are formatted GroupID:ID:Channel (see table of measurement values).

LogFileName=Values.Txt

Basic file name for the log file. Will be expanded by the current date. The software creates a new file for every new date.



FTimestampsHaveMS=1

Timestamps for measurement data contain miliseconds, if this entry is missing or 0, the resolution of timestamps are seconds.

CreateDayFiles=1

The registered values are stored in daily files. If the value is 0, they are all stored in one single file.

MaxRetriesForProtocolWhenFailure=2

Number of retries per command, before a failure is reported.

AdditionalTimeoutInMSForSlowConnectionsToHost=0

Time in ms, which is waited additionally to the period of reply specified in the UMB protocol, before for this instruction an Timeout is produced. The time specified in the protocol applies to direct 1:1 communication. If the query is made e.g. by GPRS consider using 10000 (ms, corresponds with 10s) here. Note: With 2 repetitions for each instruction (see MaxRetriesForProtocolWhenFailure) it takes 3x10s = 30s, before this instruction is rated as "Failed. Absolutely consider if an 'Autoscan' is to be accomplished, and/or a measured value query is run with a short interval. This setting will be adjustable in the TCP/IP configuration dialogue.

InifileVersion=2

Identifies the version of the ini-file format. Since Version 2 every sensor has its own section in the file. $[S1_0]$ is the section for the sensor with group-id 1. If this entry is not available, the UMB Config Tool (version 2 or later) assumes an old ini-file version and tries to convert it into the new structure. This will take about 1 - 2 minutes (depending on the computer).

AutoScanDeltaForFail=3

With ,Autoscan' for each possible group by address 1 beginning ,a ,Verify' command is sent. If the device does not respond the next AutoScanDeltaForFail-1 addresses in ascending order are queried with ,Verify'. The queried groups are 1 to 14 (group 0 is used for equipment spreading broadcasts, group 15 are masters, here the software itself.

Example: Messurement setup with 1 device of group 2 ld 1 and 1 device of group 3 ld 2. AutoScanDeltaForFail is set to 3.

List of queries (addresses, in Groupid:Id notation):

1:1 - Failed 1:2 – Failed 1:3 – Failed 2:1 – OK 2:2 - Failed 2:3 – Failed 2:4 – Failed 3:1 – Failed 3:2 – OK 3:3 – Failed 3:4 - Failed 3:5 - Failed 4:1 - Failed 4:2 – Failed 4:3 - Failed 5:1 – Failed 5:2 - Failed 5:3 – Failed 6:1 - Failed



6:2 - Failed 6:3 - Failed 7:1 - Failed 7:2 - Failed 7:3 - Failed 8:1 - Failed 8:2 - Failed 8:3 – Failed 9:1 - Failed 9:2 - Failed 9:3 - Failed 10:1 - Failed 10:2 - Failed 10:3 - Failed 11:1 - Failed 11:2 - Failed 11:3 - Failed 12:1 - Failed 12:2 - Failed 12:3 - Failed 13:1 - Failed 13:2 - Failed 13:3 - Failed 14:1 - Failed 14:2 - Failed 14:3 - Failed

Thus 45 telegrams, in order to find the 2 devices (with this ID). Since every ,Failed' is repeated 2 times (default setting), that is altogether 131 queries. If now AdditionalTimeoutInMSForSlowConnectionsToHost is set to 10s ,Autoscan' takes about 25 minutes - so choose the parameters carefully if the ,Autoscan' function is to be used.



Manual update with HexLoad

The following procedure must be applied if a sensor update using the Config-Tool was interrupted or in the case of an ISOCON-UMB.

Update ISOCON-UMB

- 1. Disconnect the power supply and the connected sensor from the ISOCON-UMB module
- 2. Connect the RS232 interface of the ISOCON-UMB module to the PC
- 3. Start HexLoad (...\Programme\Lufft\UMB-Config\Hexload\HexLoad.exe)
- 4. Load the current mot file with 'File' → 'Open'. This **must (!!!)** have the file designation 'isocon_release_Vxx.mot', where 'xx' specifies the version number.
- 5. Switch on the power supply of the ISOCON-UMB module.
- 6. 'BTL_ISOCON_Vx....' must now be displayed in HexLoad in the 'Target' window next to 'Application'.

R HexLoad V3.00j File Edit View Target Options Window Help							
Interference Interference Interference	Target						
	CPU: MTC/20 64pin BTL Version BTL V3.00						
Image: Current data - [N:\PROJEKTE\0509 ISOCON-4D\Software\Firmware\isocon_release_V12.mot] Address: 0xE8000 x1 x2							
Address: 0xE8000 x1 x2 x4	e\Firmware\isocon_release_¥12.mot]						

- 7. Start the programming with F9.
- 8. If programming is successful the message 'Job succeed' is displayed; then exit HexLoad.
- 9. The module is now ready for operation with the new firmware.

Manual update of IRS21CON-UMB

If it is necessary to update an ISR21CON-UMB module manually, proceed as in the case of 'Update ISOCON-UMB', where the name of the mot file must correspond to 'IRS21con_Vx_x.mot'.



Manual update of VS20-UMB, R2S-UMB and other UMB-Sensors

- 1. Disconnect the power supply of the sensor from the ISOCON-UMB
- 2. Switch on the power supply of the ISOCON-UMB module
- 3. Connect the RS232 interface of the ISOCON-UMB module to the PC
- 4. Start HexLoad (...\Programme\Lufft\UMB-Config\Hexload\HexLoad.exe)
- 5. Load the current mot file with 'File' \rightarrow 'Open'. The file **must (!!!)** have the following designation, where 'xx' specifies the version number.
 - VS20-UMB: 'vs20_release_Vxx.mot'
 - R2S-UMB: 'R2S_Release_Vxx.mot'
 - WSx-UMB: 'WSx_Release_Vxx.mot'
 - IRS31-UMB: 'IRS31_Vxxx.mot'
 - ARS31-UMB: 'ARS31_Vxx.mot'
 - VENTUS-UMB: 'Ventus_Vxx.mot'
 - V200A-UMB 'Ventus_Vxx.mot' (!)
 - NIRS-UMB: 'NIRS_Release_Vxx.mot'
- 6. Connect the power supply **of the sensor** to the ISOCON-UMB module.
- 7. The following test must now be displayed in HexLoad in the 'Target' window next to 'Application':
 VS20 LIMP: PTL VS20 V

•	VS20-UMB	: ,BT	L_VS20_	_V'			
	Roject			- U ×	💦 Target		
	Hexfile: 🤇	vs20_release_V	🕥.mot		Range:	E8000 - FDFEF	
	COM Port:	COMI			CRC:		
	Baudrate:	19200			Application	BTL_VS20_V3 Ju	6 2006 16:04:
					CPU:	M100/20 04pin	
					BTL Version	BTL V3.00	

1\20-010D.	, ם,	L_1\20_	_v			
💦 Project				<u> </u> Target		×
Hexfile: 🤇	R2S_Release_	/ø8.mot		Range:	E8000 - FDFEF	
COM Port:	COWIA			CRC:		
Baudrate:	19200			Application:	BTL_R2S_V2 Jup 3 2006 09:44:5	(
				CPU:	M100/28 04pm	
				BTL Version	BTL V3.00	

- 8. Start the programming with F9.
- 9. If programming is successful the message 'Job succeed' is displayed; then exit HexLoad.
- 10. The module is now ready for operation with the new firmware.



Additional information

Details on the sensor configuration are described in the sensors instruction manual. Details on the UMB-protocol specification including UMB error codes are found in the "UMB Protocol". All these documents are available on <u>www.lufft.com</u> in the section support – download – manuals – UMB-Technology.

G. Lufft Mess- und Regeltechnik GmbH

Gutenbergstraße 20 70736 Fellbach

PO Box 4252 70719 Fellbach Germany

Phone: +49 711 51822-0 Hotline: +49 711 51822-52 Fax: +49 711 51822-41 E-mail: info@lufft.de

